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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/631,082

07/31/2003

Christoph Hechtl

TID-34165

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03/02/2006

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EXAMINER

YOUNG, CHRISTOPHER G

ART UNIT

PAPER NUMBER

1756

DATE MAILED: 03/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/631,082

Applicant(s)

HECHTL ET AL.

Examiner

Christopher G. Young

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson, US Patent Number 6,426,168.

The instant application claims are drawn to a method of inspecting a mask comprising the steps: patterning a semiconductor material with a reference mask, patterning the semiconductor material with the mask as the inspection item, inspecting both patterns on the semiconductor material by means of an apparatus suitable for inspecting the semiconductor material, and comparing the pattern generated by the inspection item mask to the pattern generated by the reference mask to detect deviations in the inspection item mask from the reference mask.

The prior art reference describes, teaches and suggests the claimed invention by describing a method of inspecting photo masks by patterning at least one image in a first region of a substrate using a first photo mask, patterning at least one second image in a second region of the substrate using a second photo mask, wherein the first and second regions are substantially near one another. Comparing the first and second images to determine if the first photo mask forms a pattern substantially similar to the image formed by the second mask. Column 3, lines 31-60 provide a more detailed description. Here it is taught that a wafer 100 is transported to a develop module 220

within the processing unit 200 (FIG. 7), where both the first and second resists 114, 118 within the first and second regions 116, 122, respectively, are developed to remove exposed material (in the event a positive photoresist is used), or to remove the un-exposed material (in the event a negative photoresist is used). Following the resist develop, the wafer 100 is removed from the photo-processing unit 200, and transported to an inspection system. Therein the first image 130 formed within the first region 116 using Mask-1 is compared to the second image 132 formed within the second region 122 using Mask-2. For example, the two images 130, 132 patterned side-by-side on the wafer 100, are compared using an image comparison system or pattern comparison tool, such as a KLA 2135.TM.

The existence of defects within the second region 122 indicates differences between Mask-1 and Mask-2, wherein Mask-1 is a production worthy control mask and Mask-2 is a new mask. "Defect" refers to a difference in the printed image formed by Mask-2 as compared with the printed image formed by Mask-1, such as a feature having a different size and/or shape, the absence of an image, the appearance of an additional image, etc. Therefore, the existence of defects within the second region 122 indicates that Mask-2 is defective, and cannot be used to replace Mask-1 in semiconductor production. If no defects are found in the second region 122 Mask-2 may be used to replace Mask-1 in semiconductor production.

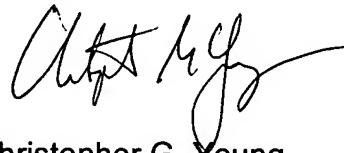
These teachings clearly show a mask inspection method where a reference pattern is formed and compared to an inspected pattern as claimed.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher G. Young whose telephone number is 571-272-1394. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Christopher G. Young
Primary Examiner
Art Unit 1756

cgy